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EXAMINER

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Please find below and/or attached an Office communication concerning this application or proceeding.

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/538,973
Filing Date: June 14, 2005
Appellant(s): DAHLBACK, MATS

Richard R. Michaud
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed May 5, 2009 appealing from the Office action mailed January 5, 2009.

I. Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

II. Related Appeals and Interferences

The examiner is not aware of any related appeals, interference, or judicial proceedings, which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III. Status of Claims

The statement of the status of claims contained in the brief is correct.

IV. Status of Amendments After Final

The appellant's statement of the status of amendment after final rejection contained in the brief is correct.

V. Summary of Claimed Subject Matter

The appellant's statement of the summary of claimed subject matter contained in the brief is correct.

VI. Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the ground of rejection to be reviewed on appeal contained in the brief is correct.

VII. Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

VIII. Evidence Relied Upon

US 6,149,738	Dahlback	Nov. 21, 2000
US 6,167,104	Garzarolli et al.	Dec. 26, 2000

VIII. Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 18-21, 23 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dahlback (US 6,149,738) in view of Garzarolli et al. (US 6,167,104).

With respect to claims 18-21, 23 and 31, Dahlback ('738) discloses a method of producing and treating a sheet for a component in a fuel assembly for a nuclear light water reactor comprising (col. 4, line 65 to col. 5, line 42):

producing a sheet of a Zr-base alloy by forging, hot-rolling and cold-rolling in a number of steps, wherein said alloy contains by weight at least about 96% of Zr;

carrying out a β quenching when the sheet has been produced in the finished dimension or almost finished dimension; and

heat treating the sheet after the β quenching in a temperature range of 600-800° C (i.e. the α -phase temperature range of the alloy).

The heat treatment temperature range of Dahlback ('738) overlaps the claimed temperature ranges in the instant claims 20 and 21. A prima facie case of obviousness exists. See MPEP 2144.05 I.

Dahlback ('738) does not disclose that the sheet is stretched by 0.1% to 7% or 0.2% to 4% in a direction corresponding to a longitudinal direction of a component for which the sheet is intended during the heat treatment as claimed in the instant claims 18 and 31 respectively. However, Dahlback ('738) discloses that during the heat treatment the flatness of the sheet was restored (col. 4, lines 52-59). Garzarolli et al. ('104) discloses lengthening a tube during a straightening operation by stretching the

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tube by at least 0.3% of the initial length of the tube in the longitudinal direction of the tube (col. 4, lines 32-45). The stretching amount range of Garzarolli et al. ('104) overlaps the ranges as claimed in the instant claims 18 and 31. A prima facie case of obviousness exists. See MPEP 2144.05 I. It would have been obvious to one of ordinary skill in the art at the time the invention was made to flatten the sheet by stretching the sheet by at least 0.3% in a direction corresponding to a longitudinal direction of a component for which the sheet is intended during the heat treatment as disclosed by Garzarolli et al. ('104) in order to generate internal stress in the sheet as discussed by Garzarolli et al. ('104) (col. 4, lines 32-35).

With respect to the claimed feature in the instant claims 18 and 31 that the claimed stretching and the claimed heat treatment during step c) are carried out in a continuous oven process, Dahlback ('738) discloses heat treating and flattening the sheet in a temperature range of 600-800° C (i.e. the α -phase temperature range of the alloy) in a continuous furnace (col. 4, lines 53-59). It would have been obvious to one of ordinary skill in the art at the time the invention was made to flatten the sheet of Dahlback ('738) in a continuous furnace by stretching the sheet by at least 0.3% in a direction corresponding to a longitudinal direction of a component for which the sheet is intended during the heat treatment as disclosed by Garzarolli et al. ('104) in order to generate internal stress in the sheet as discussed by Garzarolli et al. ('104) (col. 4, lines 32-35).

With respect to the claimed feature in the instant claim 31 that the claimed sheet is used in a fuel assembly for a boiling water reactor, it is noted that the ground of

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rejection for the claim limitation of the type of the water reactor relies on the teaching of Dahlback ('738) rather than that of Garzarolli et al. ('104).

X. Response to Argument

The appellant's arguments in the Appeal Brief filed on May 5, 2009 have been fully considered, but they are not persuasive.

First, the appellant argues that the stretching of the sheet, as recited in the instant claim 18 is different from the heating of the sheet to restore flatness as in Dahlback ('738); the final heat treat described in Dahlback ('738) will release some tensions and will therefore contribute to the flatness of the sheet (although no stretching is performed; only a "non-stretching" straightening is performed); however, this contribution will not make the sheet sufficiently flat. In response, the examiner notes that the "non-stretching" straightening of the sheet disclosed by Dahlback ('738) and the claimed stretching of the sheet serve the same purpose of flattening the sheet.

Therefore, the claimed stretching of the sheet reads on the restoration of the flatness of the sheet disclosed by Dahlback ('738). Contrary to appellant's assertion, Dahlback ('738) discloses that during the heat treatment the flatness of the sheet was restored (col. 4, lines 52-59) without specifying further step to flatten the sheet, suggesting the sheet is sufficiently flat after the heat treatment. Furthermore, the combination of Dahlback ('738) and Garzarolli et al. ('104) with a proper motivation as stated above renders the claimed stretching of the sheet obvious to one of ordinary skill in the art.

Second, the appellant argues that the combination of Dahlback ('738) and Garzarolli et al. ('104) is not proper, because they are concerned with different types of

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water reactors. In response, the examiner notes that both Dahlback ('738) and Garzarolli et al. ('104) are concerned with the components used in nuclear reactors. Garzarolli et al. ('104) is only relied upon to establish the ground of the rejection of the claimed feature of stretching the sheet. As stated above, it would have been obvious to one of ordinary skill in the art at the time the invention was made to flatten the sheet of Dahlback ('738) by stretching the sheet of Dahlback ('738) in a continuous furnace by stretching the sheet by at least 0.3% in a direction corresponding to a longitudinal direction of a component for which the sheet is intended during the heat treatment as disclosed by Garzarolli et al. ('104). The combination is proper and maintained.

Third, the appellant argues that unlike the instant invention, Garzarolli et al. ('104) is not concerned with the problem of increasing the flatness and the corrosion properties of an abject. In response, the examiner notes that the objectives of the stretching step of Garzarolli et al. ('104) do not have to be the same as those of the instant invention. However, they appear to be very similar to those of the instant invention, including suppressing the high growth of thermonuclear stress by introducing internal stress (i.e. increasing corrosion properties) and straightening the curved tubes (i.e. increasing the straightness) (col. 4, lines 25-67).

XI. Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and interferences section of the examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Weiping Zhu/

Weiping Zhu

Patent Examiner, Art Unit 1793

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